

A Roadmap to an Integrated Fisheries Information System



FIS Planning Group

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August 16, 2004
Seattle, Washington

Background



- Genesis of Planning Team
- Why was Team formed
- Purpose of Team
- Membership:
 - David Ackley (Alaska), Rob Bistodeau (SW), Tina Chang (HQ), Steve Freese (NW), John Poffenberger (SE), Karen Sender (PI), Dave van Voorhees (HQ), John Witzig (NE)

Opportunities for Improvement



- Steering Committee
- Governance of FIS
- Define what is needed in a “national” system
- Define what the partners need
- Establish a national and regional enterprise architecture

Questions

- What is FIS doing now?
- Where is FIS going?
- What is FIS anyway?
 - What are the FIS mandates – MSA
 - Other authorizing legislation (ESA, MMPA, ...)
- What does FIS need to move beyond the status quo

Why a Roadmap?



- **There is a destination – we know where we're going**
- **Different routes for each region with common destination**
- **Identify common needs**
- **Identify differences**

What is FIS?



FIS \neq IT

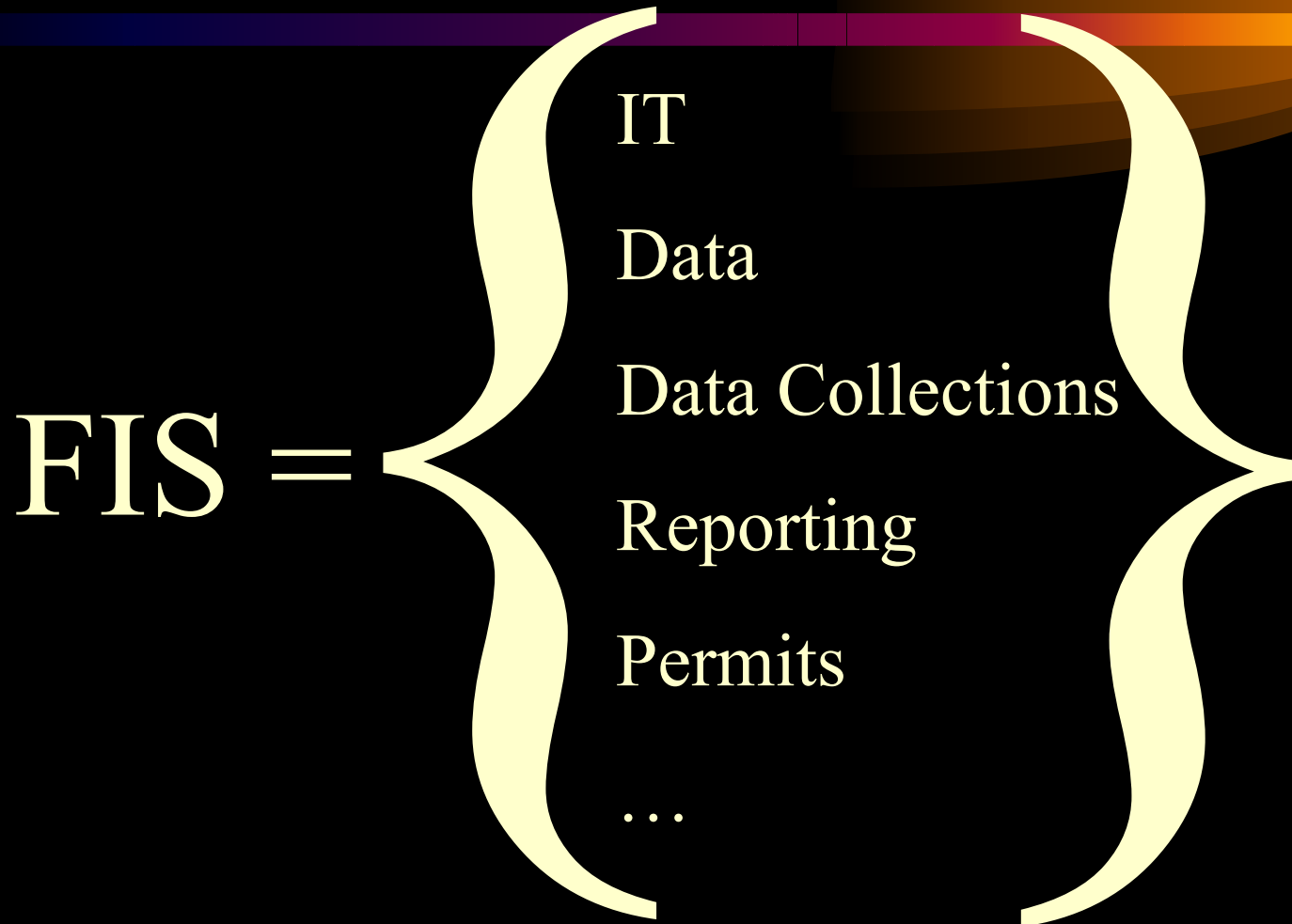
FIS \neq Data

FIS \neq Data Collections

FIS \neq Reporting

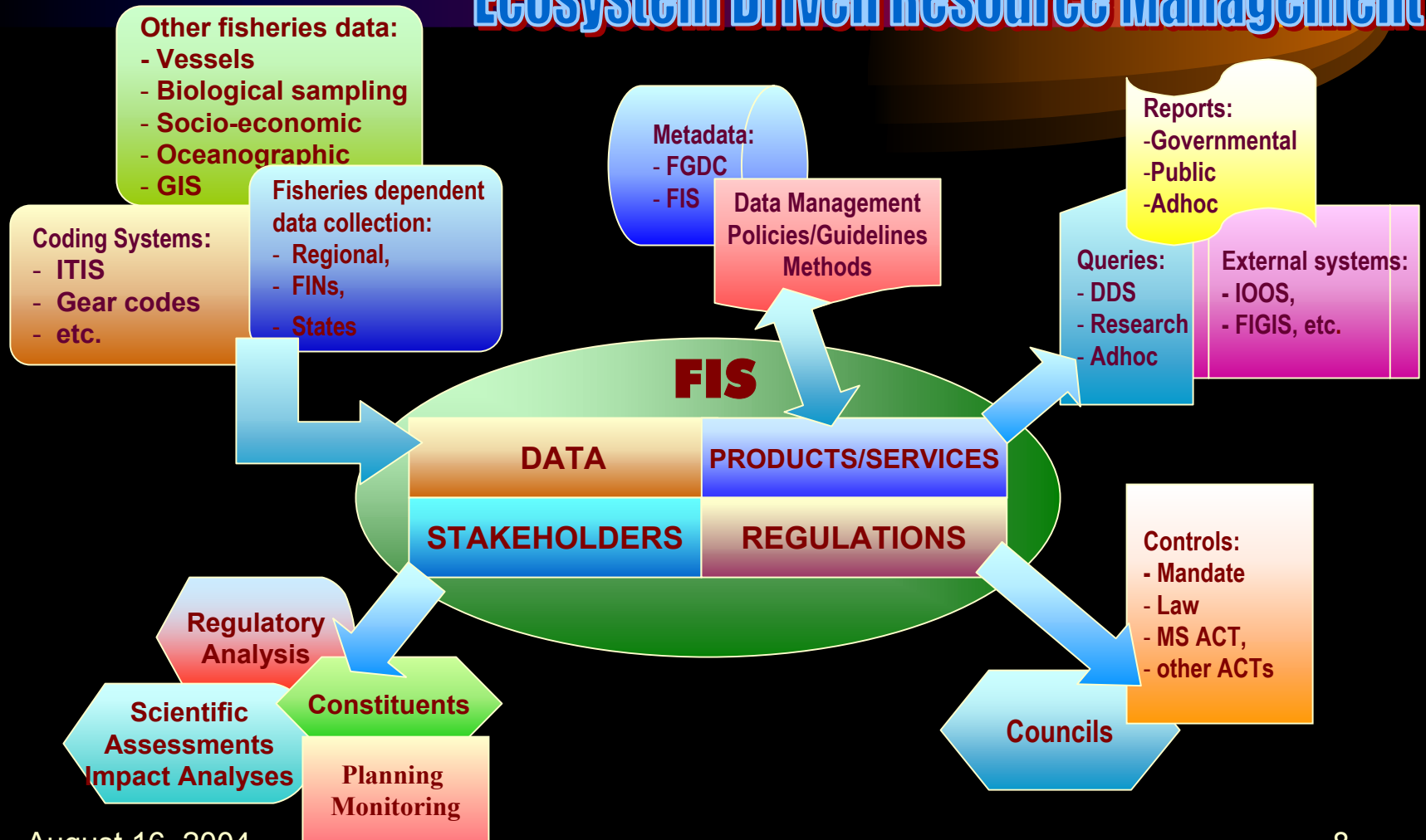
FIS \neq Permitting

What is FIS?



Fisheries Information System Context

Ecosystem Driven Resource Management



FIS Projects



- **FY 2004 Projects**
 - Where do they fit on the FIS map?
 - Are they “stovepipe” projects
- **FY 2005 Priorities & beyond**
 - Region / National
 - How do they fit together.

What is FIS?

Information Potholes

Regional Information Road



F
I
S

A journey to a destination or a Quest

2004

20??

Is this FIS?

Project I

Information Potholes

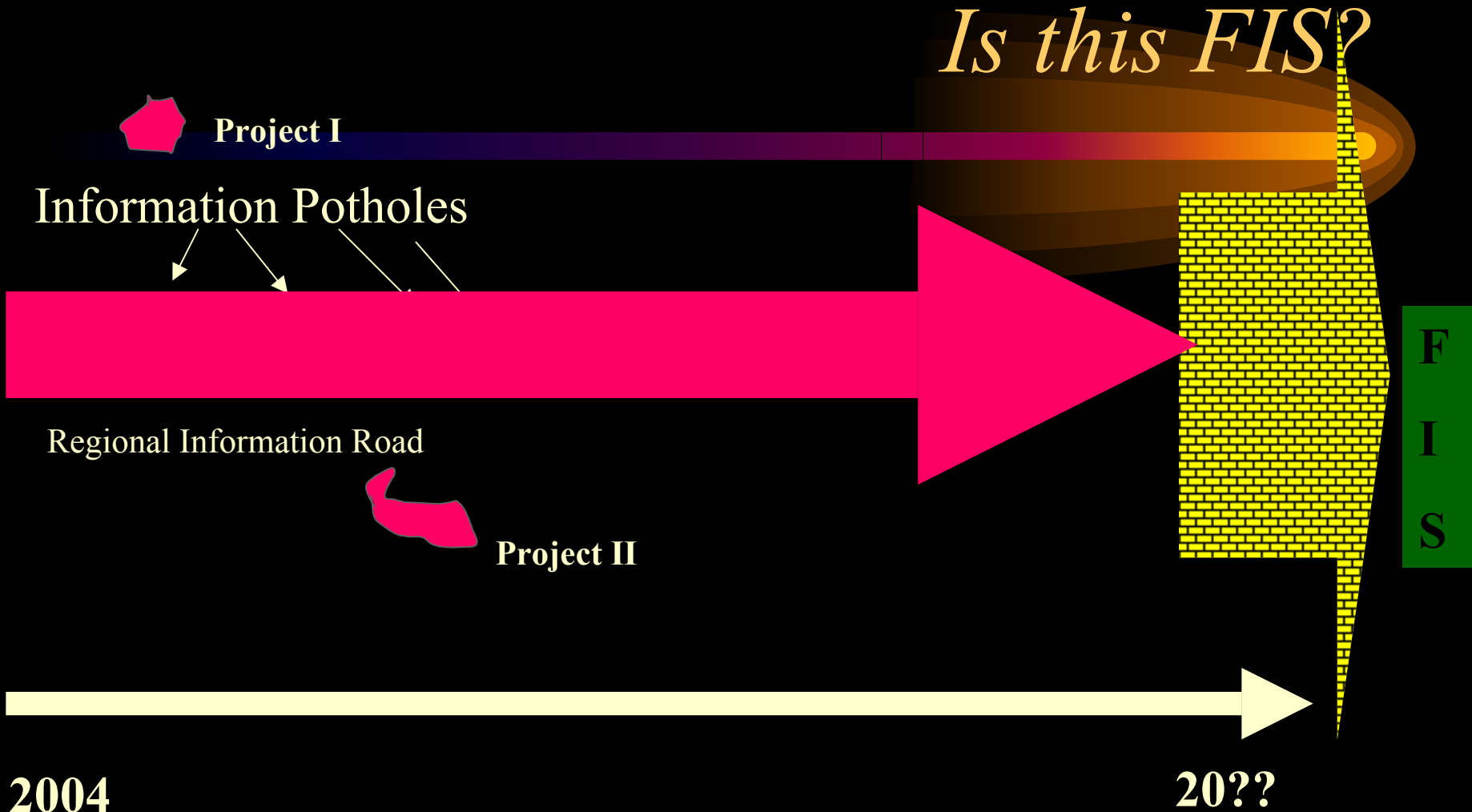
Regional Information Road

Project II

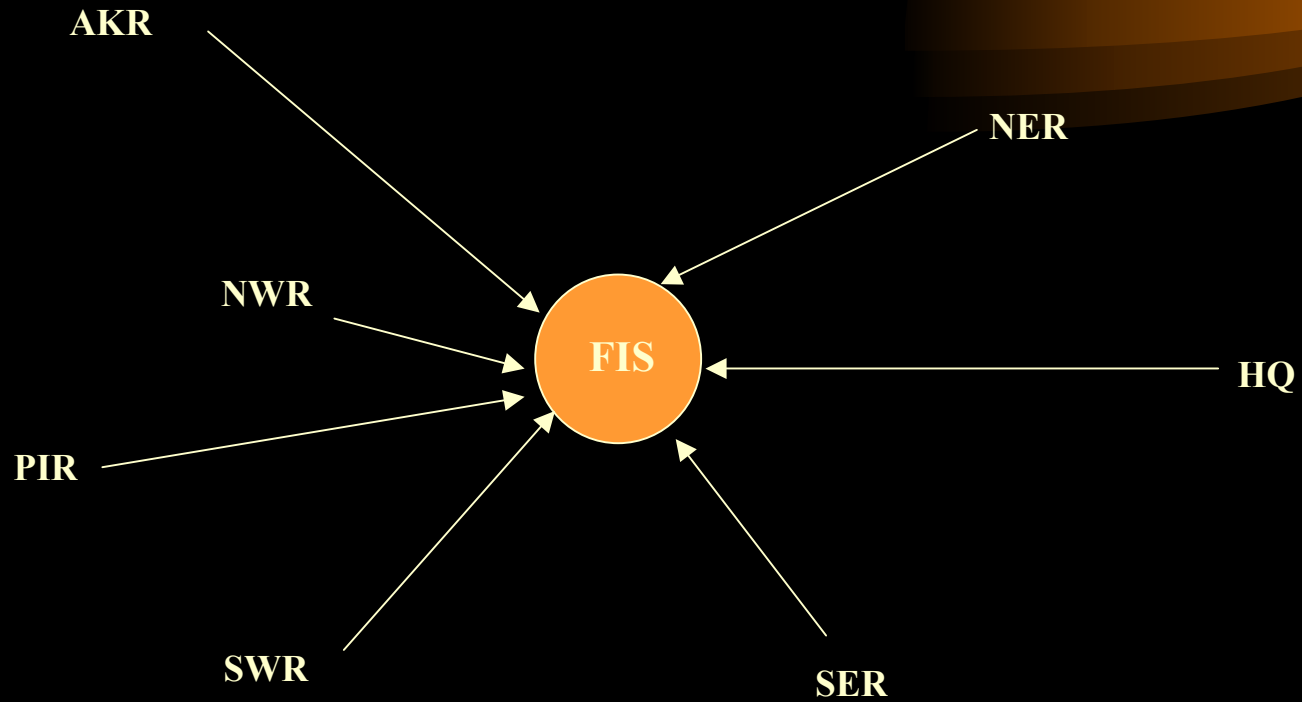
F
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2004

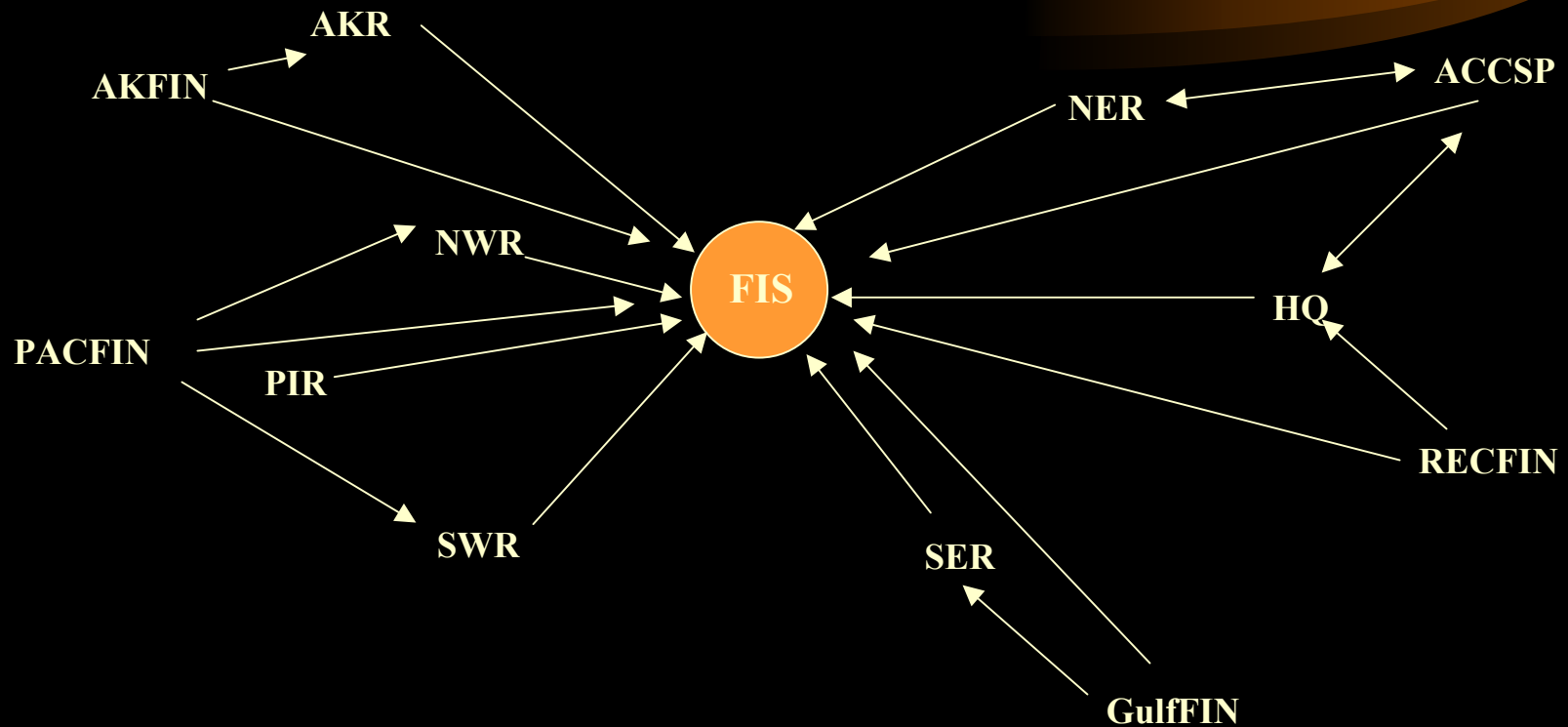
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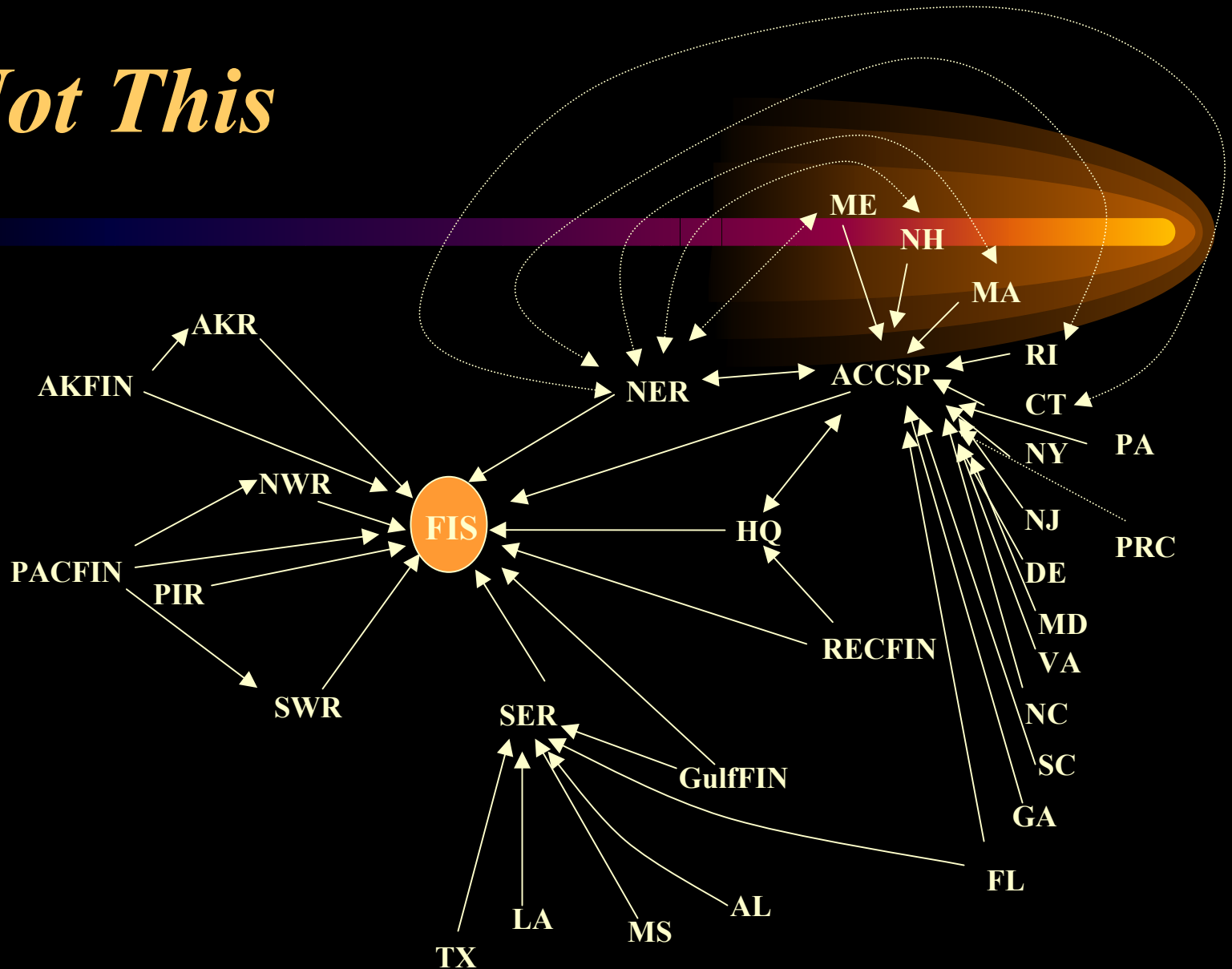
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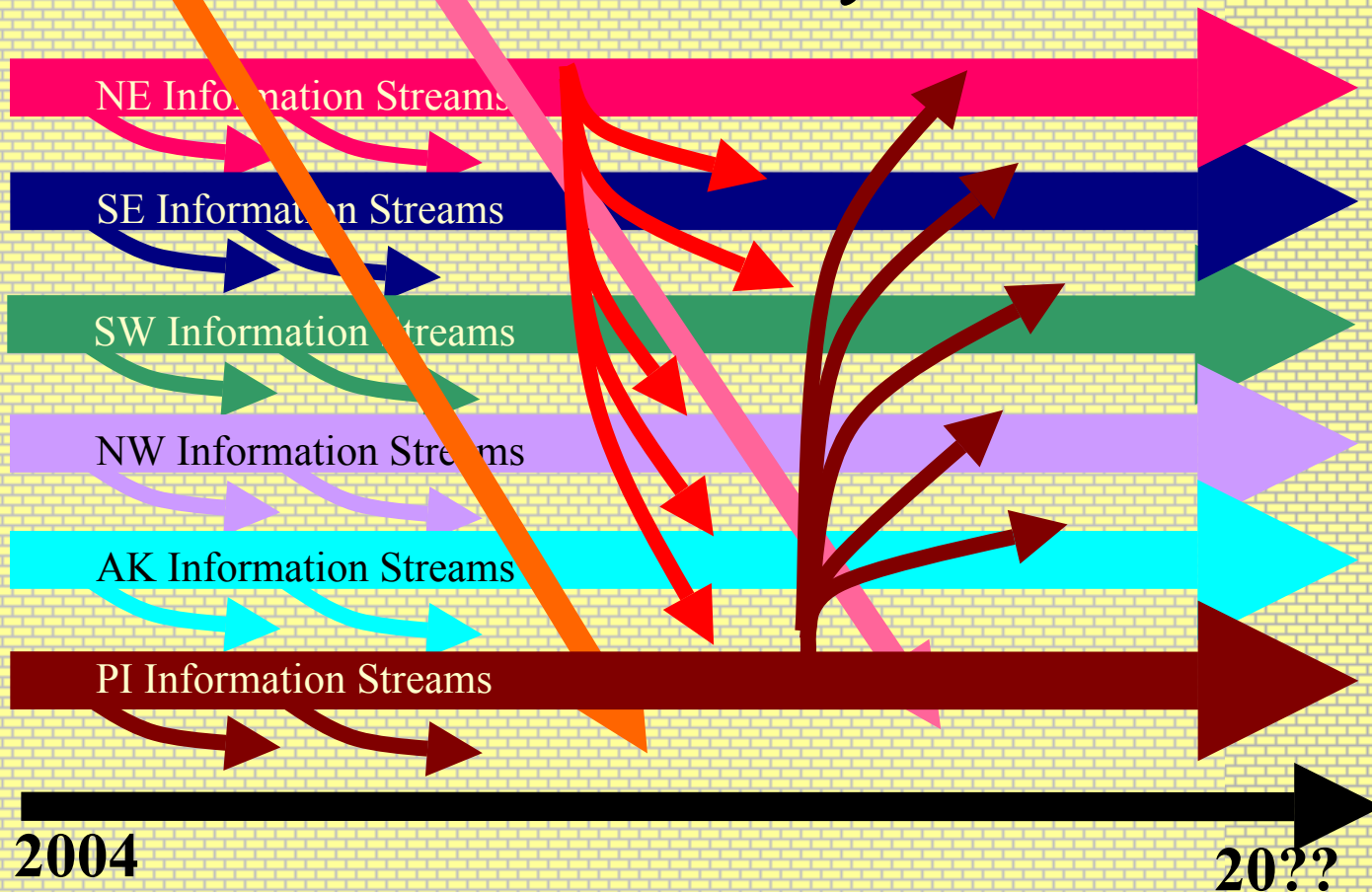
Not This



Not This



Maybe This



**F
I
S**

Regional – narrow but with depth
(detail); FIS – broad but shallow

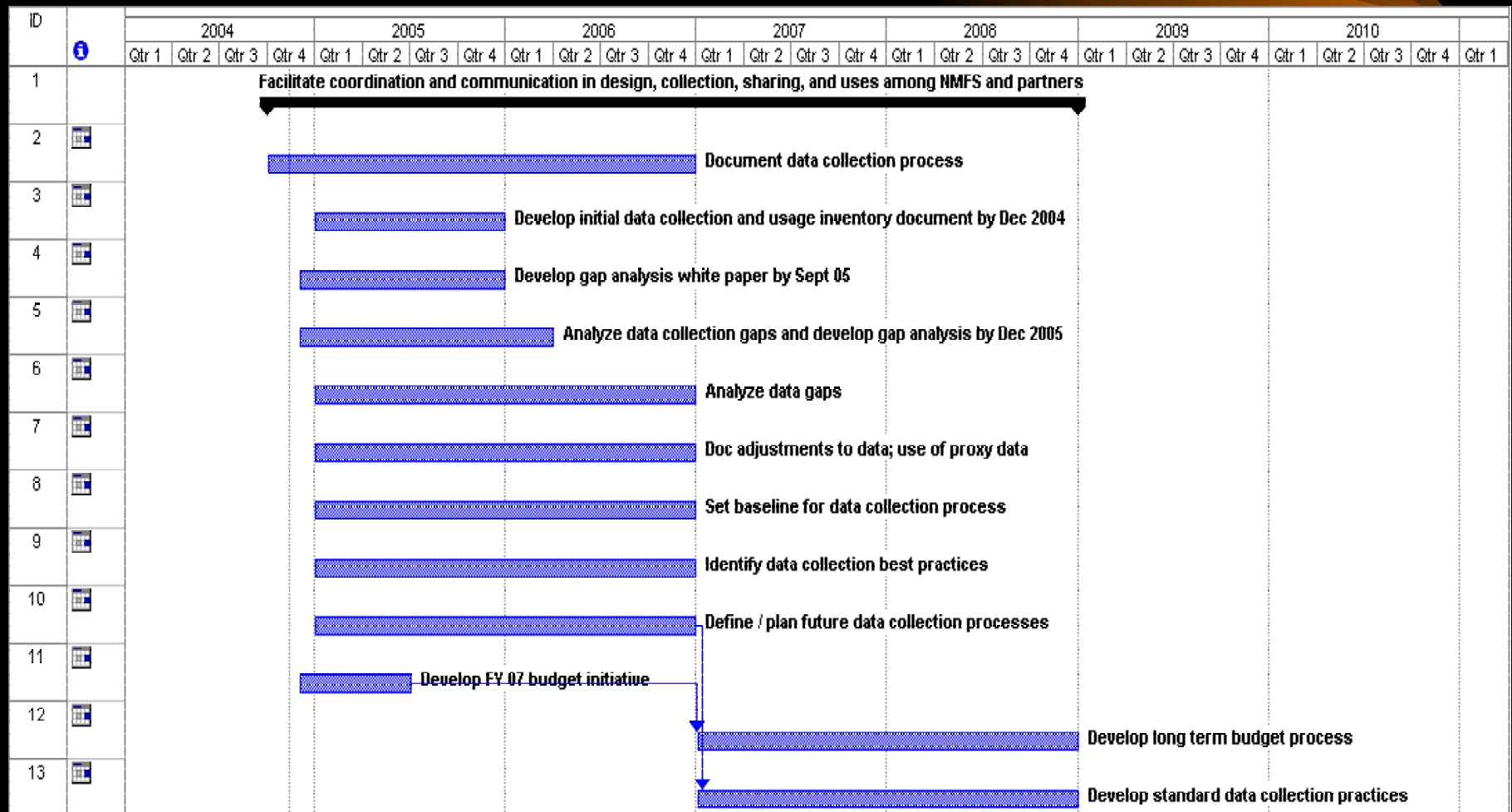
Goals

- Facilitate coordination and communication in the design, collection, sharing and uses of data
- Integrate information collected by Feds & States
- Build cross-regional and national tools to support activities at the Regions and Centers
- Develop a unified data system that provides information data across U.S.
- Expand (Adapt?) data collections to meet future needs
- Improve data quality

Facilitate

- **Near Term (FY04 & FY05)**
 - description of data collection programs taking into account spatial and temporal concerns including:
 - Types of data collected and accessed.
 - Where the data are collected.
 - How collected, stored, accessed and utilized.
 - How processed
 - Current collection issues
 - Types of reports generated
 - Develop FY 07 budget initiative.
- **Intermediate Term (FY05 & FY06)**
 - Gap analysis
 - Document adjustments to data and use of proxy information
- **Long Term (FY07 & FY08)**
 - Develop long-term budget process.
 - Develop collection practice standardization.
 - Create a forum for expanding successful practices

Facilitate












Integrate



- **Near Term**
 - Gain a clear understanding of what information is collected.
- **Intermediate Term**
 - Mitigate situations for ad hoc data requests;
 - Incorporate a formal change control process
- **Long Term**
 - Linkage across all regions

Integrate

ID		2004				2005				2006				2007				2008				2009				2010			
		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
15		Consolidate information under existing state, fed, and int'l fisheries mgt plans																											
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- **Near Term**

- Identify tools required. *[Inventory of data collection techniques need to be accomplished before identifying tools]*

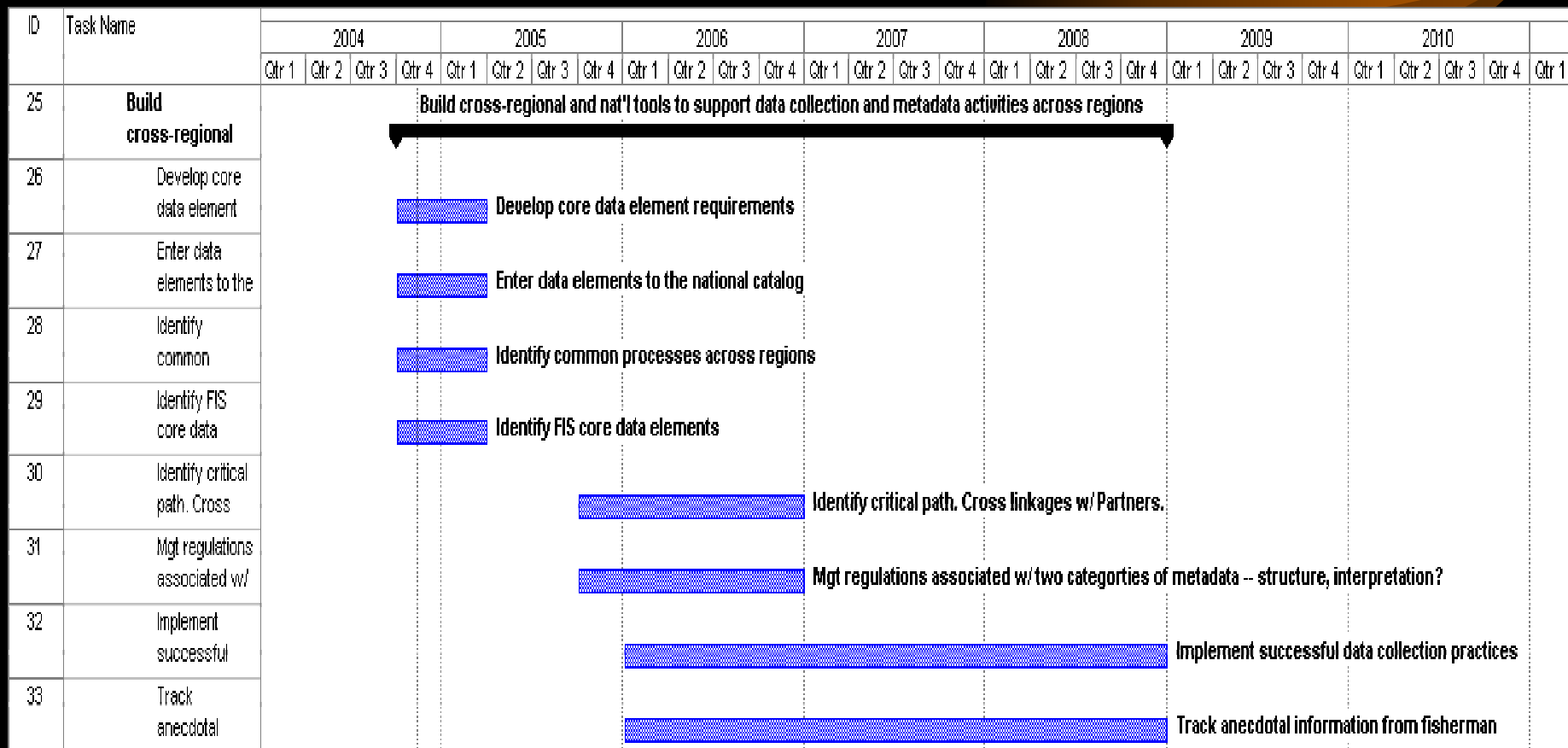
- **Intermediate Term**

- Identify critical paths
 - Cross linkages with state partner programs (includes FINs).
 - Management regulations associated with two categories of metadata; how data are structured, how data are interpreted.

- **Long Term**

- Implement successful practices
- Include anecdotal information (verifiable) that fishermen provide to the agency.

Build



Develop



- **Near Term**

- Form steering committee – define role
- Identify customers and need
- Define future needs and end products
- Create regional FIS groups
- Establish procedures for how partners work together
- Demo projects – showcase these
- Communications plan

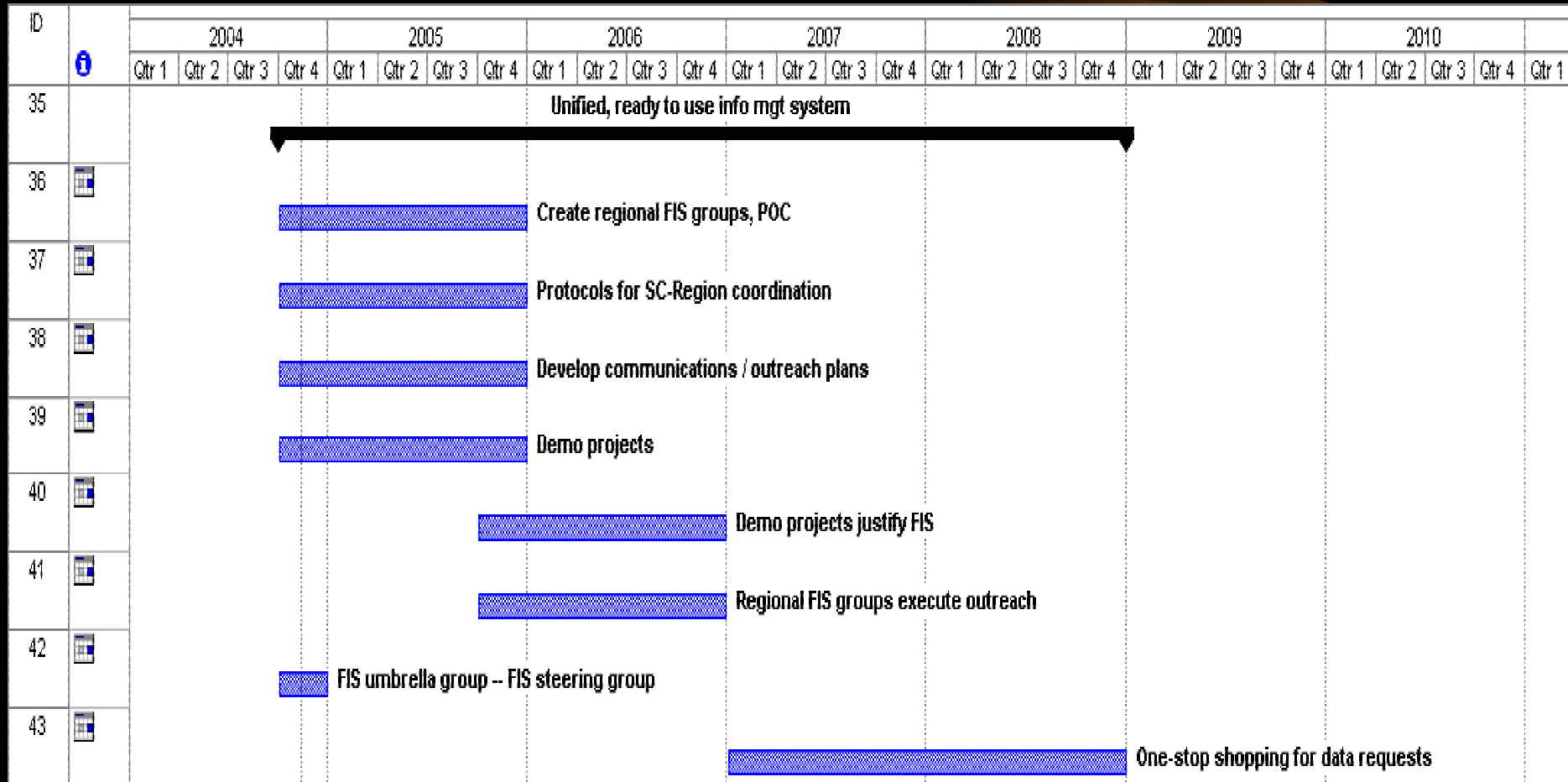
- **Intermediate Term**

- Regional FIS groups take lead on outreach and communication.

- **Long Term**

- National FIS end result should be based on regional vision (Pull Up).
- National FIS should also contain core requirements via PSG input (Push Down).
- Develop a one stop shopping method for all data requests.

Develop



Improve



- **Near Term**

- Distill the Data Quality Act and distribute to FIS partners.
- Create a set of criteria to evaluate data quality in data collections.
- Develop criteria for eliminating overlaps in current data collections.

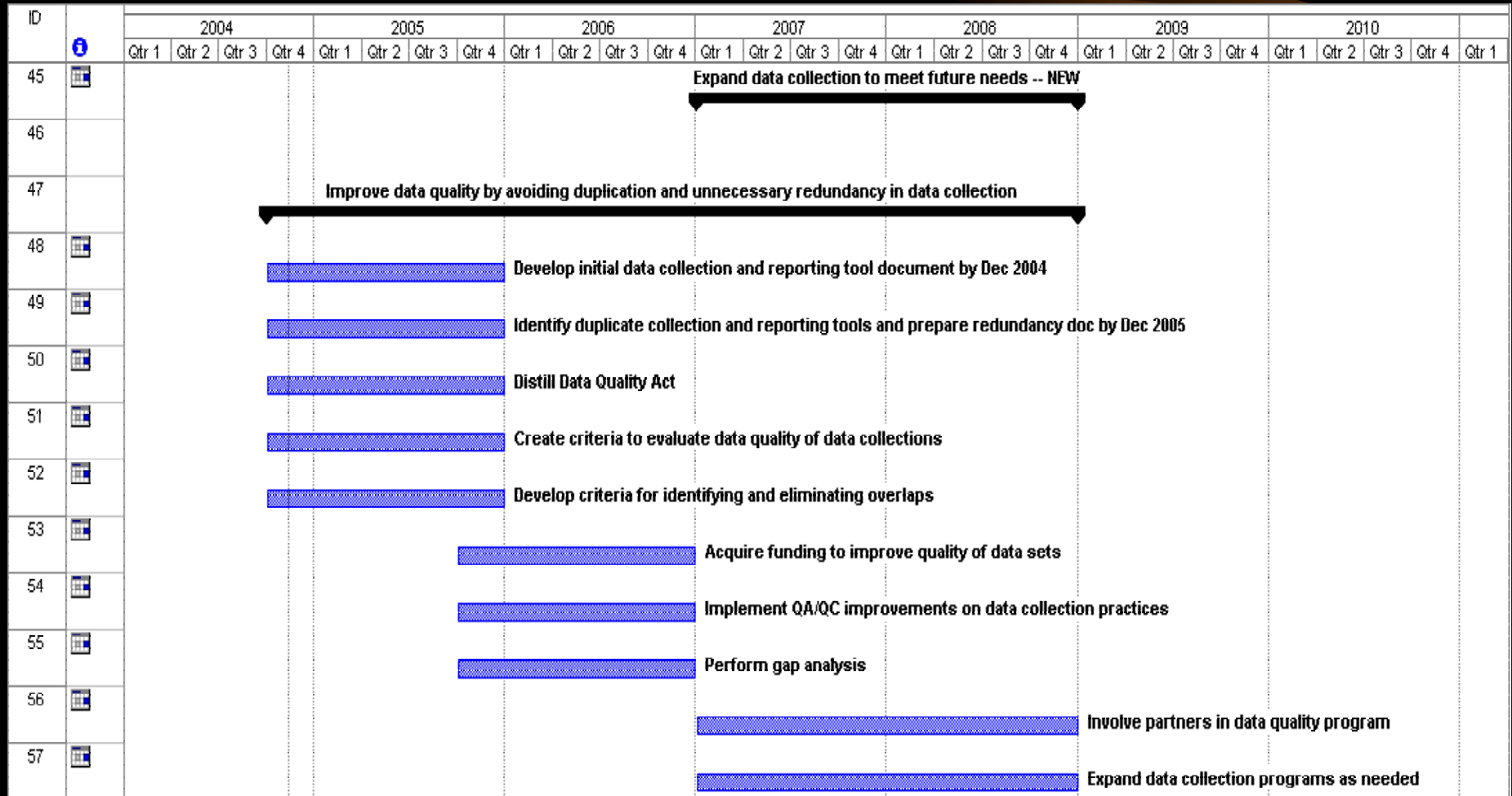
- **Intermediate Term**

- Funding to improve the quality of data sets.
- Implement QA/QC improvements in data collection practices.
- Perform data collection gap analysis on near term activities

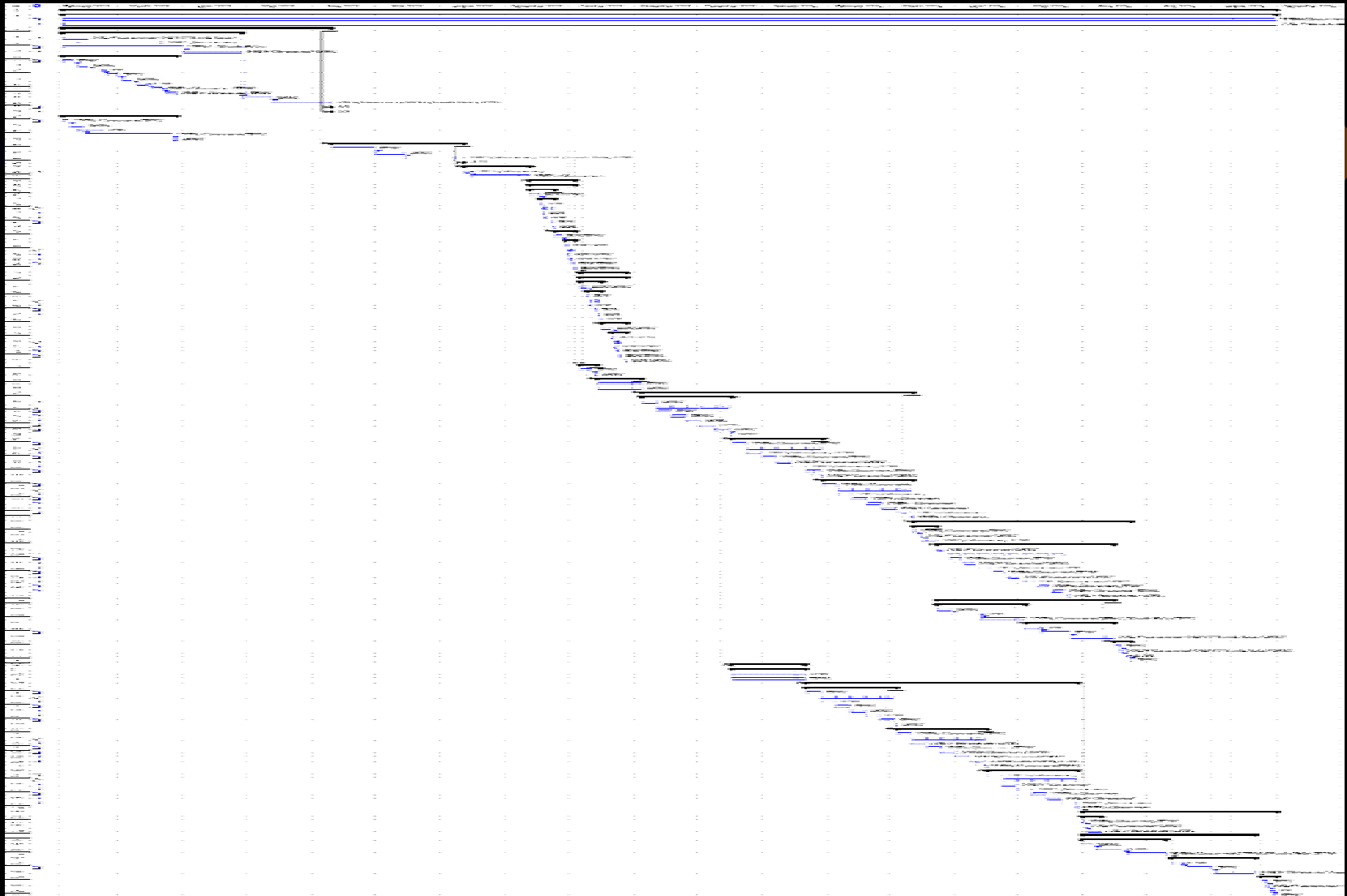
- **Long Term**

- Involvement of partners in developing data quality program.
- Expand data collection programs as needed in the future.

Expand & Improve



Dealer Electronic Reporting Project Map

































- **Concept Getting to FIS**
 - **Roadmap – Define the Enterprise**
 - **Parallel paths on the FIS super Highway with ramps into the National FIS**
 - **What is needed at the National Level**
 - **What are the regions' roles & needs from FIS**

Recommendations

- Hire a full-time FIS program manager
- POC in regions
- Establish a steering committee for FIS
 - What's the membership?
 - Who does the committee report to?
 - What does it do?
- Establish governance – Charter
- Consider a PSG to address Enterprise Architecture for FIS

Framework for FIS

ENTERPRISE ARCHITECTURE - A FRAMEWORK TM

	DATA <i>What</i>	FUNCTION <i>How</i>	NETWORK <i>Where</i>	PEOPLE <i>Who</i>	TIME <i>When</i>	MOTIVATION <i>Why</i>	
SCOPE (CONTEXTUAL)	 List of Things Important to the Business <i>Planner</i> ENTITY = Class of Business Thing	 List of Processes the Business Performs Process = Class of Business Process	 List of Locations in which the Business Operates Node = Major Business Location	 List of Organizations Important to the Business People = Major Organization Unit	 List of Events/Cycles Significant to the Business Time = Major Business Event/Cycle	 List of Business Goals/Strategies Ends/Mean = Major Business Goal/Strategy <i>Planner</i>	SCOPE (CONTEXTUAL)
BUSINESS MODEL (CONCEPTUAL)	 e.g. Semantic Model End = Business Entity Relationship = Business Relationship	 e.g. Business Process Model Proc = Business Process I/O = Business Resources	 e.g. Business Logistics System Node = Business Location Link = Business Linkage	 e.g. Work Flow Model People = Organization Unit Work = Work Product	 e.g. Master Schedule Time = Business Event Cycle = Business Cycle	 e.g. Business Plan End = Business Objective Means = Business Strategy <i>Owner</i>	BUSINESS MODEL (CONCEPTUAL)
SYSTEM MODEL (LOGICAL)	 e.g. Logical Data Model Ent = Data Entity Relationship = Data Relationship	 e.g. Application Architecture Proc = Application Function I/O = User Views	 e.g. Distributed System Architecture Node = ITS Function (Processor, Storage, etc.) Link = Link Characteristics	 e.g. Human Interface Architecture People = Role Work = Deliverable	 e.g. Processing Structure Time = System Event Cycle = Processing Cycle	 e.g. Business Rule Model End = Structural Assertion Means = Action Assertion <i>Designer</i>	SYSTEM MODEL (LOGICAL)
TECHNOLOGY MODEL (PHYSICAL)	 e.g. Physical Data Model Ent = Segment/Table/etc. Relationship = Pointer/Key/etc.	 e.g. System Design Proc = Computer Function I/O = Data Elements/Sets	 e.g. Technology Architecture Node = Hardware/Systemic Software Link = Link Specifications	 e.g. Presentation Architecture People = User Work = Screen Format	 e.g. Control Structure Time = Execute Cycle = Component Cycle	 e.g. Rule Design End = Condition Means = Action <i>Builder</i>	TECHNOLOGY MODEL (PHYSICAL)
DETAILED REPRESENTATIONS (OUT-OF-CONTEXT)	 e.g. Data Definition Ent = Field Relationship = Address	 e.g. Program Proc = Language Statement I/O = Control Block	 e.g. Network Architecture Node = Address Link = Protocol	 e.g. Security Architecture People = Identity Work = Job	 e.g. Timing Definition Time = Interrupt Cycle = Machine Cycle	 e.g. Rate Specification End = Sub-condition Means = Step <i>Sub-Contractor</i>	DETAILED REPRESENTATIONS (OUT-OF-CONTEXT)
FUNCTIONING ENTERPRISE	e.g. DATA	e.g. FUNCTION	e.g. NETWORK	e.g. ORGANIZATION	e.g. SCHEDULE	e.g. STRATEGY	FUNCTIONING ENTERPRISE

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F I S I E I

